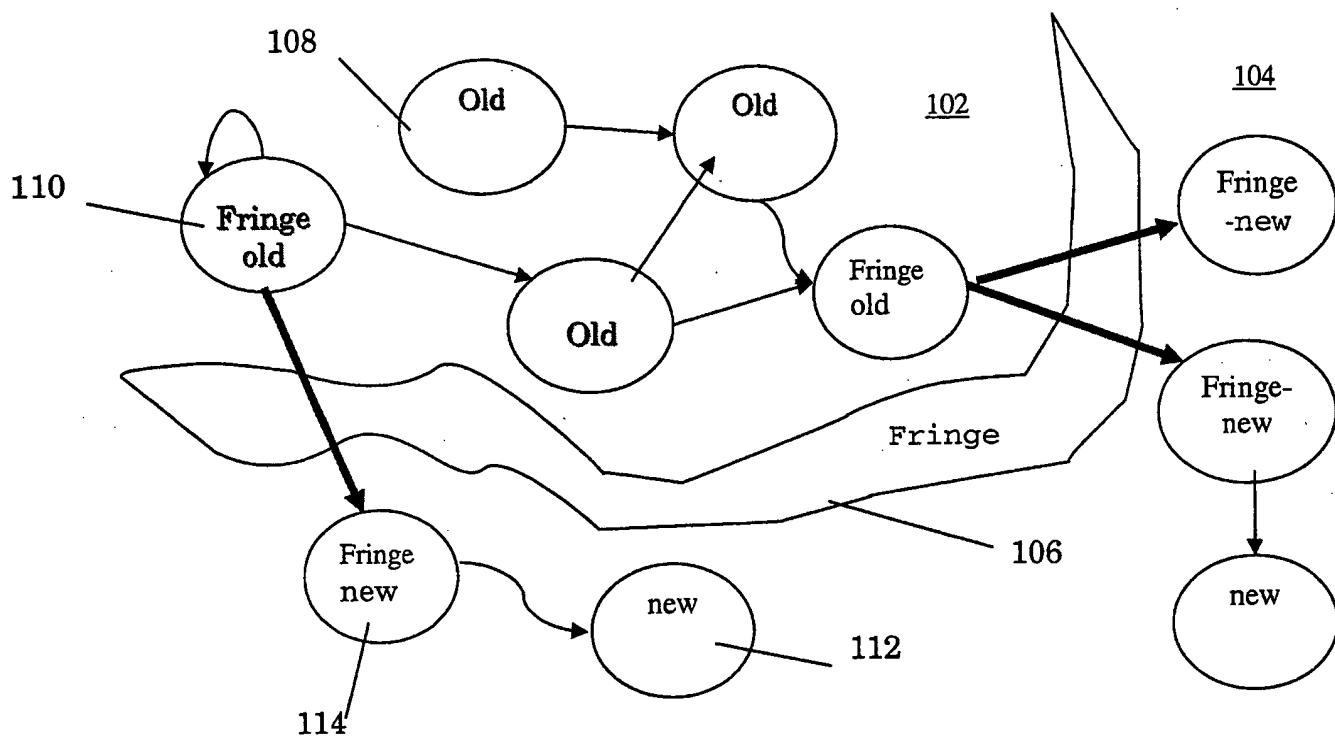


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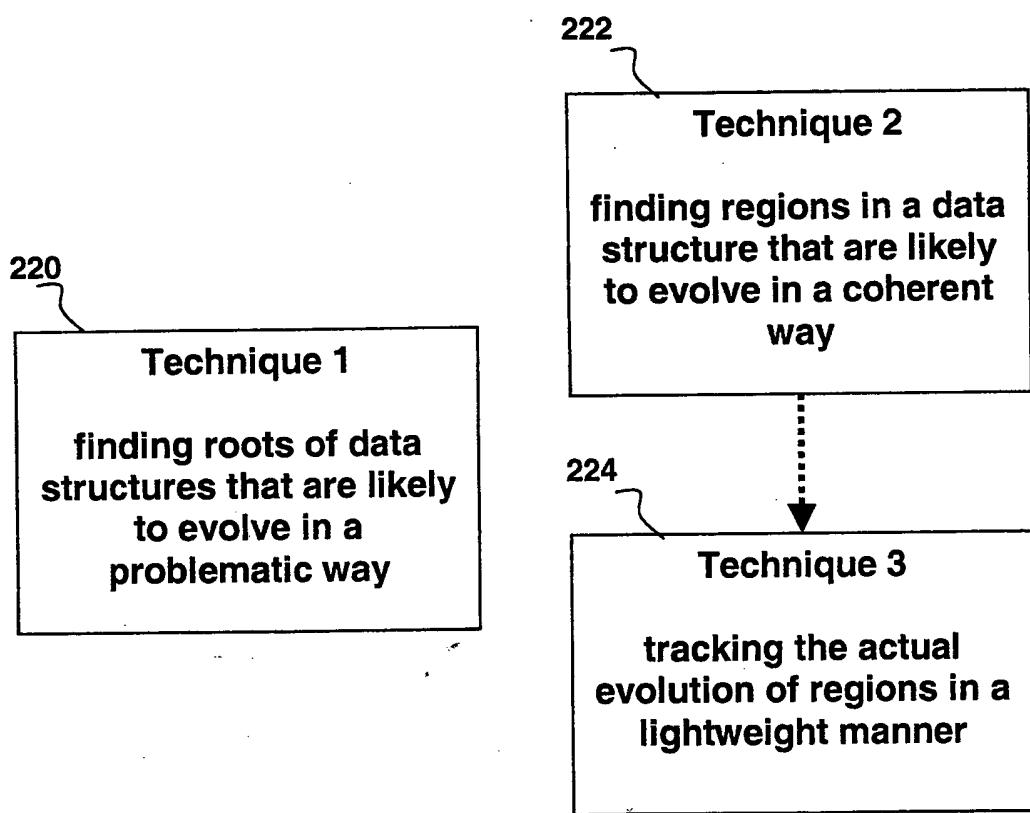


***FIG. 1***  
***Prior Art***

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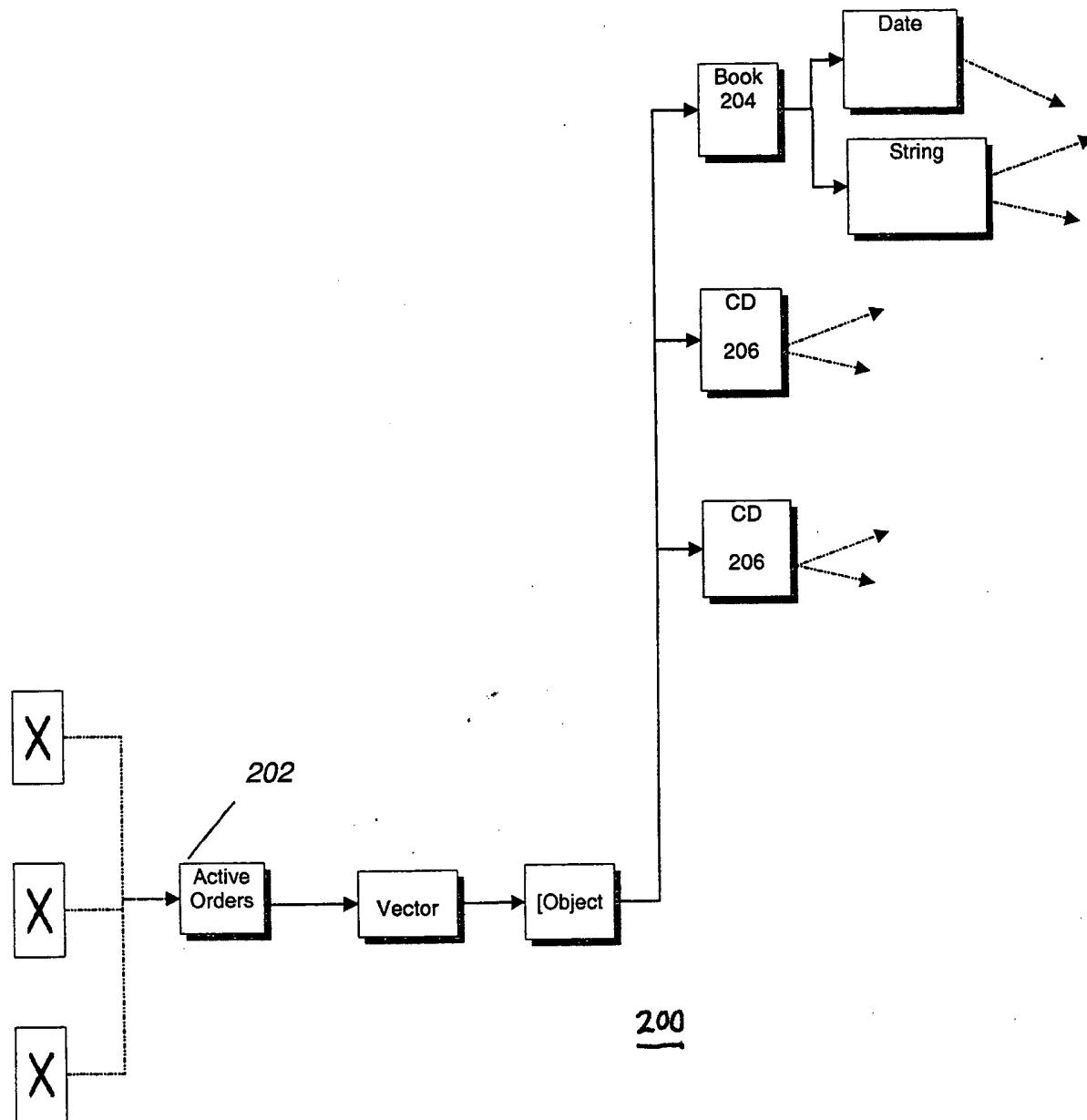


**FIG. 2**

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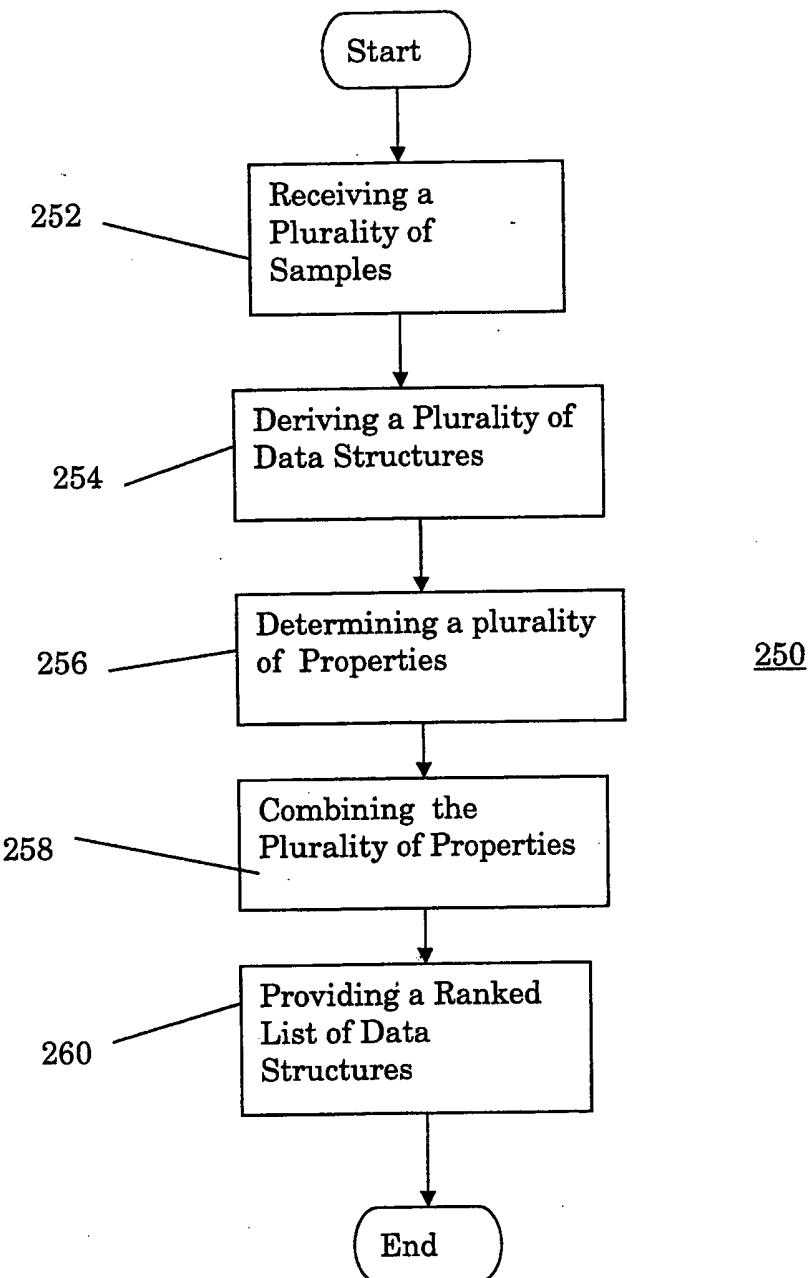


**FIG. 2A**

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***FIG. 2B***

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**PHASE 1 METRICS/BINARY**

**Structural**

$S_1$  leaf nodes

$S_2$  arrays

$S_3$  internal nodes

$S_4$  non-owners

**Temporal**

$T_1$  no age intersection

$T_2$  new arrays only

$T_3$  no fringe

$T_4$  no data type intersection

**FIG. 2C**

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**PHASE 2 METRICS/GATING**

$G_1$  on-stack ownership

$G_2$  on-stack reachability

$G_3$  ownership counts

$G_4$  new ownership

$G_5$  array ownership

$G_6$  fringe ownership

$G_7$  fringe data type uniformity

$G_8$  data type intersection

$G_9$  dominance frontier

**REFERENCE GRAPH ATTRIBUTES**

Single Entry Equivalence

Garbage Collection Roots

Reachability

Unique Ownership

Age

Size

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**PHASE 3 METRICS/FIXPOINT**

$F_1$  immediate domination residue

$F_2$  by type immediate domination residue

$F_3$  immediate dominator residue

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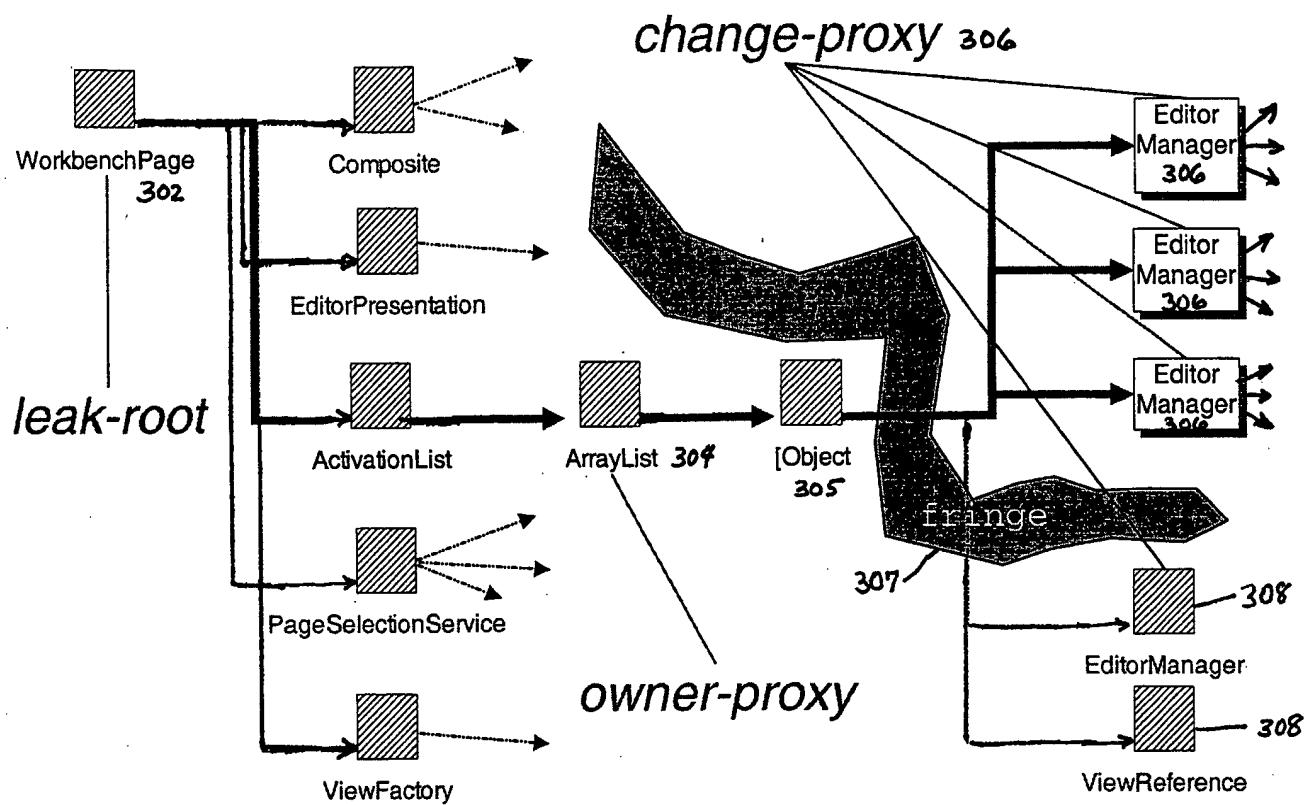


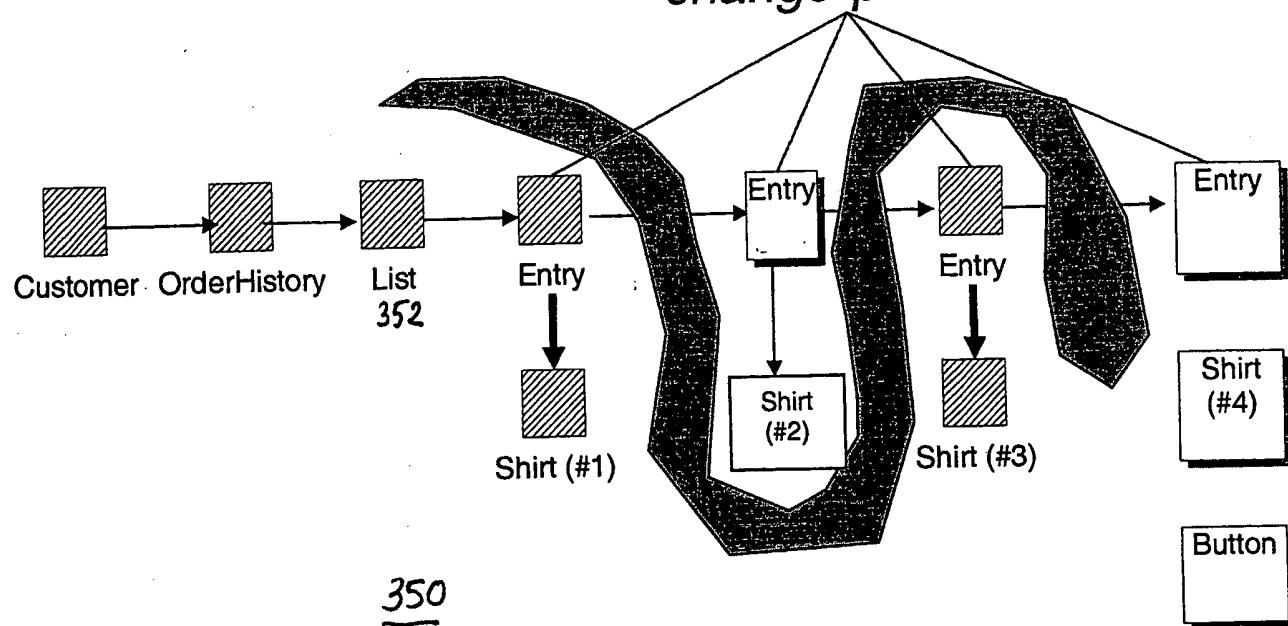
FIG. 3A

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*change-proxies* 354



*FIG. 3B*

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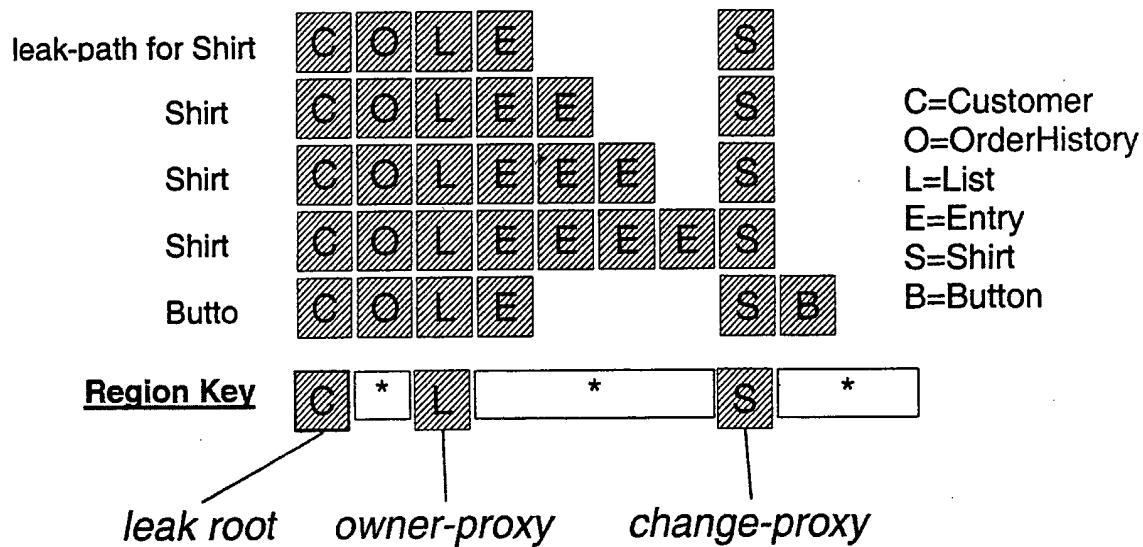
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Leak root		Leak type	Root object	Owner proxy	Change proxy	# leakages	Kind	Size
10.554	simpleleaker class obj...	Vector object		by type: Integer		8100	grower	grower
3.28	simpleleaker class obj...	Vector object		by type: Character		151	grower	grower
1.379	simpleleaker class obj...	LinkedList\$Entry object		by type: LinkedList\$Entry		5	grower	grower
1.129	simpleleaker class obj...	LinkedList\$Entry object		by type: LinkedList\$Entry		4	grower	grower
0.587	simpleleaker class obj...	Vector object		by type: Boolean		900	flatliner	flatliner

Tracking grower in jinsight.leaky.AdditionTemplate@9a4f8e; size estimate= 151.  
 Tracking flatliner in jinsight.leaky.AdditionTemplate@10cceh3; size estimate=900.  
 Decreasing arm rate of jinsight leaky AdditionTemplate@10cceh3 to 0.87999994

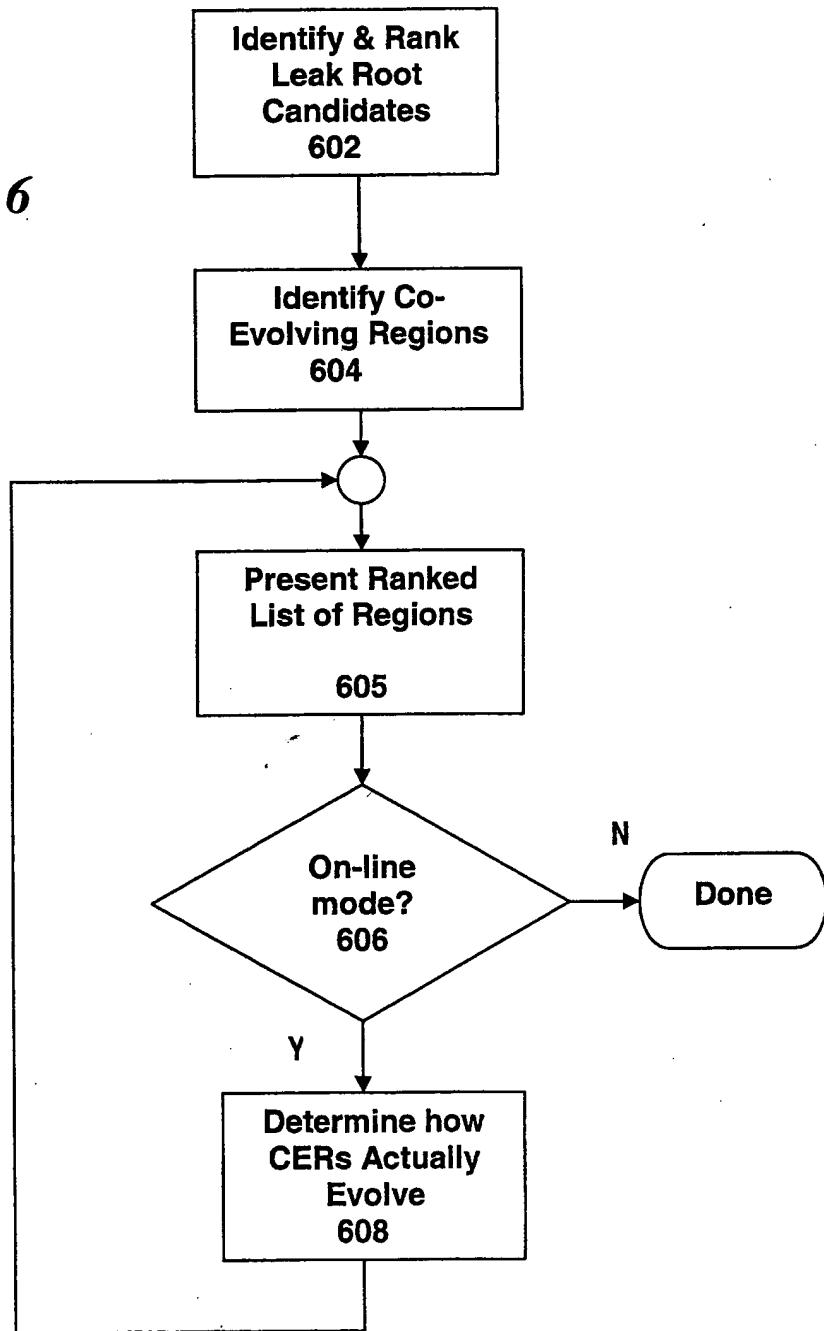
**FIG. 5**



**FIG. 4**

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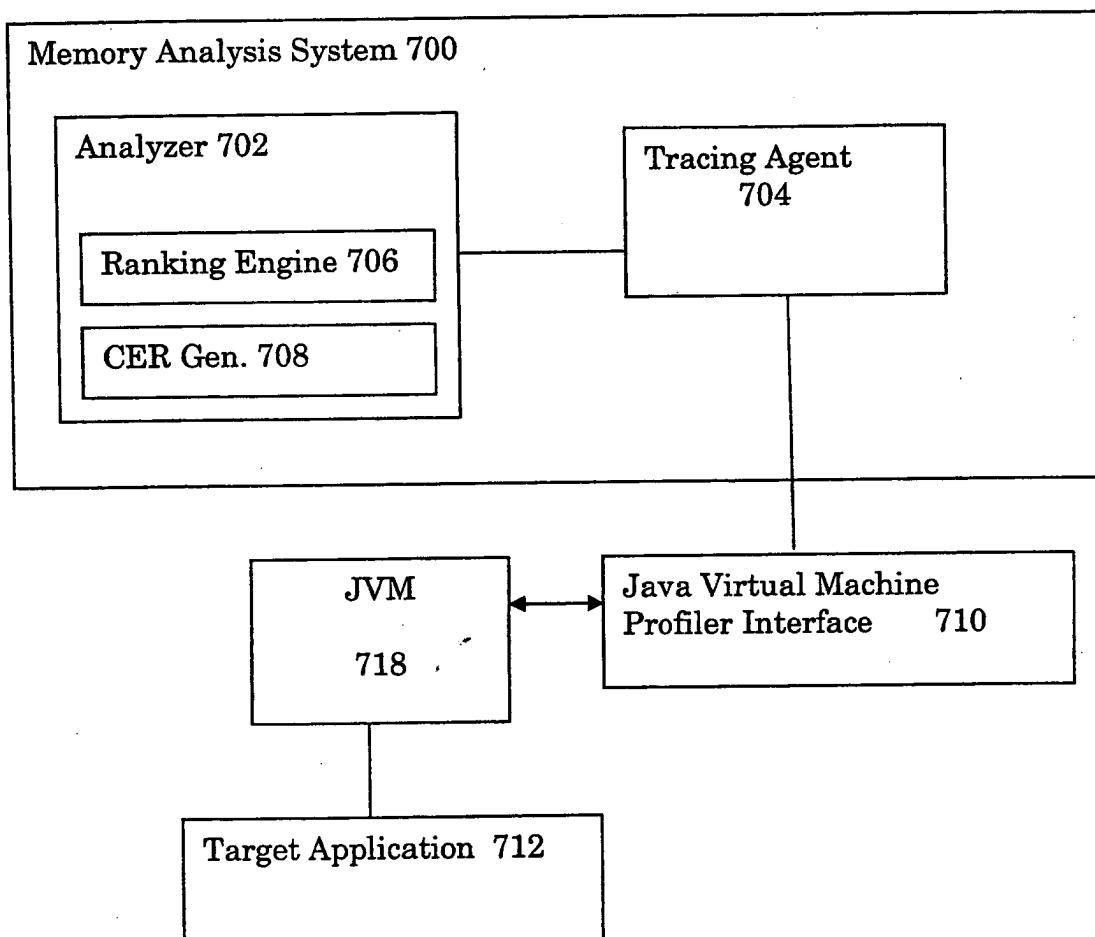
**FIG. 6**



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**FIG. 7**